520.42961X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): A. SUTOH, et al

Serial No.: 10/630,707

Filed: July 31, 2003

For: DATA CONTROL METHOD FOR DUPLICATING DATA BETWEEN COMPUTER SYSTEMS

PETITION TO MAKE SPECIAL
UNDER 37 CFR §1.102(MPEP §708.02)

MS Petition
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

November 10, 2005

Sir:

Applicants hereby petition the Commissioner to make the above-identified application special in accordance with 37 CFR §1.102(d). Pursuant to MPEP §708.02(VIII), Applicants state the following.

(A) This Petition is accompanied by the fee set forth in 37 CFR §1.17(h).

The Commissioner is hereby authorized to charge any additional payment due, or to credit any overpayment, to Deposit Account No. 50-1417.

(B) All claims are directed to a single invention.

If the Office determines that all claims are not directed to a single invention, Applicant will make an election without traverse as a prerequisite to the grant of special status in conformity with established telephone restriction practice.

11/14/2005 HALI11 00000003 10630707
01 FC:1464 130.00 OP

(C) A pre-examination search has been conducted.

The search was directed towards a storage system. In particular, the search was directed towards a data control method for duplicating data in a system, said system comprising: a primary system including a first computer system and a first storage system connected to said first computer system; and a secondary system including a second computer system and a second storage system connected to said second computer system; wherein at least said first storage system and said second storage system are connected to each other; said data control method comprising the steps of: into a specific storage device within said first storage system, registering (storing) a log based on which an update of data stored in said first storage system can be recreated, said data being produced as a result of processing performed by said first computer system; copying said log registered in said specific storage device within said first storage system to a specific storage device within said second storage system, said specific storage device within said second storage system being set to duplicate said log; updating said data stored in said first storage system, said data being produced as a result of said processing performed by said first computer system; notifying said second computer system of a change in data stored in said specific storage device within said second storage system, said change being made as a result of performing said copying step; reading said change in said data stored in said specific storage device within said second storage system, this step being performed by said second computer system; and updating a duplicate of said data (stored in said first storage system) based on a

log read by said second computer system, said duplicate being stored in said second storage system.

The search of the above features was conducted in the following areas:

Class	Subclasses
707	100, 200, 203, 204
711	141

Additionally, a computer database search was conducted on the USPTO systems EAST and WEST.

(D) The following is a list of the references deemed most closely related to the subject matter encompassed by the claims:

U.S. Patent Application Publication No.	Inventor(s)
2003/0126133 A1	Dattatri et al
2003/0220935 A1	Vivian et al
2004/0098425 A1	Wiss et al

A copy of each of these references (as well as other references uncovered during the search) is enclosed in an accompanying IDS.

(E) It is submitted that the present invention is patentable over the references for the following reasons.

It is submitted that the cited references, whether taken individually or in combination with each other, fail to teach or suggest the invention as claimed. In particular, the cited references, at a minimum, fail to teach or suggest as recited in the claims:

a first feature of the present invention as recited in independent claim 1 of means for notifying an external device of a change in data stored in a specific one of said plurality of storage devices, said external device being connected to said controller;

a second feature of the present invention as recited in independent claim 2 of means for notifying an external device of a change in a state of a specific one of said plurality of storage devices, said external device being connected to said controller;

a third feature of the present invention as recited in independent claim 5 of an interface for receiving a notification indicating that data stored in a specific storage device within said storage system has been changed, said storage system being connected to said interface through said connecting device;

a fourth feature of the present invention as recited in independent claim 7 of an interface for said storage system receiving a notification indicating that a state of a controller within said storage system has been changed, said storage system being connected to said interface through said connecting device;

a fifth feature of the present invention as recited in independent claim 8 of notifying said second computer system of a change in data stored in said specific storage device within said second storage system, said change being made as a result of performing said copying step; and

a sixth feature of the present invention as recited in independent claim 18 of detecting a change in data stored in said specific storage device within said second storage system, said change being made as a result of performing said

copying step, this detecting step being performed by said second computer system.

To the extent applicable to the present Petition, Applicants submit that although the distinguishing feature(s) may represent a substantial portion of the claimed invention, the claimed invention including said feature(s) and their inter-operation provides a novel storage system and system and method related to or implemented in or by said storage system not taught or suggested by any of the references of record.

Further, the cited references fail to teach or suggest the above noted features of the present invention when taken in combination with other limitations recited in the claims.

The references considered most closely related to the claimed invention are briefly discussed below:

Dattatri (U.S. Patent Application Publication No. 2003/0126133) provides for database replication using application program event playback. Disclosed are database site 112 including database server 120 and data store 124, and another database site (not labeled) including database server 134 and secondary data store 136, where database events are stored in an event log 132, and secondary data store 136 is updated using the event log 132 (see figure 1; paragraphs 20-22).

However, Dattatri does not teach or suggest the features of the present invention, including a data control method for registering (storing) a log, based on which an update of data stored in a first storage system can be recreated, into a

specific storage device within the first storage system, said data being produced as a result of processing performed by said first computer system; copying the log registered in the specific storage device within the first storage system to a specific storage device within the second storage device, wherein, based on the log, an update of data stored in a first storage system can be recreated; and updating, in the second storage system, a duplicate of the data stored in the first storage system based on a log read by the second computer system, wherein, based on the log, an update of data stored in a first storage system can be recreated.

More particularly, Dattatri at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 2, the above described third feature of the present invention as recited in independent claim 5, the above described fourth feature of the present invention as recited in independent claim 7, the above described fifth feature of the present invention as recited in independent claim 8, and the above described sixth feature of the present invention as recited in independent claim 18, and further does not teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Vivian (U.S. Patent Application Publication No. 2003/0220935) provides for database replication using application program event playback. Disclosed are source site 101 including primary (operational) database 103, and target site 113

including file server 111 and logical standby database 115, where database events are stored in an event log 132, and logical standby database 115 is updated using the event log 132 (see figure 1; paragraphs 21-23).

However, Vivian does not teach or suggest the features of the present invention, including a data control method for registering (storing) a log, based on which an update of data stored in a first storage system can be recreated, into a specific storage device within the first storage system, said data being produced as a result of processing performed by said first computer system; copying the log registered in the specific storage device within the first storage system to a specific storage device within the second storage device, wherein, based on the log, an update of data stored in a first storage system can be recreated; and updating, in the second storage system, a duplicate of the data stored in the first storage system based on a log read by the second computer system, wherein, based on the log, an update of data stored in a first storage system can be recreated.

More particularly, Vivian at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 2, the above described third feature of the present invention as recited in independent claim 5, the above described fourth feature of the present invention as recited in independent claim 7, the above described fifth feature of the present invention as recited in independent claim 8, and the above described sixth feature of the present invention as recited in independent claim

18, and further does not teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Wiss (U.S. Patent Application Publication No. 2004/0098425) provides for a database system providing improved methods for data replication. Disclosed is primary server 310, where a primary log 313 is transmitted to standby server 330 by file mirroring module 315, standby server 330 being connected to primary server 310 via network 320 (see figure 3; and paragraph 61).

However, Wiss does not teach or suggest the features of the present invention, including a data control method for registering (storing) a log, based on which an update of data stored in a first storage system can be recreated, into a specific storage device within the first storage system, said data being produced as a result of processing performed by said first computer system; copying the log registered in the specific storage device within the first storage system to a specific storage device within the second storage device, wherein, based on the log, an update of data stored in a first storage system can be recreated; and updating, in the second storage system, a duplicate of the data stored in the first storage system based on a log read by the second computer system, wherein, based on the log, an update of data stored in a first storage system can be recreated.

More particularly, Wiss at a minimum does not teach or suggest the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in

independent claim 2, the above described third feature of the present invention as recited in independent claim 5, the above described fourth feature of the present invention as recited in independent claim 7, the above described fifth feature of the present invention as recited in independent claim 8, and the above described sixth feature of the present invention as recited in independent claim 18, and further does not teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims.

Therefore, since the cited references fail to teach or the above described first feature of the present invention as recited in independent claim 1, the above described second feature of the present invention as recited in independent claim 2, the above described third feature of the present invention as recited in independent claim 5, the above described fourth feature of the present invention as recited in independent claim 7, the above described fifth feature of the present invention as recited in independent claim 8, and the above described sixth feature of the present invention as recited in independent claim 18, and further does not teach or suggest these features of the present invention in combination with the other limitations recited in each of the independent claims, it is submitted that the above mentioned claims are patentable over the cited references whether said references are taken individually or in combination with each other.

(F) Conclusion

Applicant has conducted what it believes to be a reasonable search, but makes no representation that "better" or more relevant prior art does not exist. The United States Patent and Trademark Office is urged to conduct its own complete search of the prior art, and to thoroughly examine this application in view of the prior art cited herein and any other prior art that the United States Patent and Trademark Office may locate in its own independent search. Further, while Applicant has identified in good faith certain portions of each of the references listed herein in order to provide the requisite detailed discussion of how the claimed subject matter is patentable over the references, the United States Patent and Trademark Office should not limit its review to the identified portions but rather, is urged to review and consider the entirety of each reference, and not to rely solely on the identified portions when examining this application.

In view of the foregoing, Applicant requests that this Petition to Make Special be granted and that the application undergo the accelerated examination procedure set forth in MPEP 708.02 VIII.

(G) Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

[X] the Credit Card Payment Form (attached) for $130.00.

[ ] charging Account _____ the sum of $130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (520.42961X00).

Respectfully submitted,

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

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IFW

PTO/SB/30 (11-04)
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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

PETITION FEE
Under 37 CFR 1.17(f), (g) & (h)
TRANSMITTAL
(Fees are subject to annual revision)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Application Number	**10/630,707**
Filing Date	**July 31, 2003**
First Named Inventor	**A. Sutoh et al**
Art Unit	
Examiner Name	
Attorney Docket Number	**520.42961X00**

Enclosed is a petition filed under 37 CFR §1.17(h) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of $ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees)

☒ The Commissioner is hereby authorized to charge the following fees to Deposit Account No. 50-1417:

☐ petition fee under 37 CFR 1.17(f), (g) or (h) ☒ any deficiency of fees and credit of any overpayments

Enclose a duplicative copy of this form for fee processing.

☐ Check in the amount of $ _____ is enclosed.

☒ Payment by credit card (From PTO-2038 or equivalent enclosed). Do not provide credit card information on this form.

Petition Fees under 37 CFR 1.17(f): Fee $400 Fee Code 1462

For petitions filed under:
§ 1.53(e) - to accord a filing date.
§ 1.57(a) - to according a filing date.
§ 1.182 – for decision on a question not specifically provided for.
§ 1.183 – to suspend the rules.
§ 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
§ 1.741(b) – to accord a filing date to an application under §1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g): Fee $200 Fee code 1463

For petitions filed under:
§1.12 - for access to an assignment record.
§1.14 - for access to an application.
§1.47 - for filing by other than all the inventors or a person not the inventor.
§1.59 - for expungement of information.
§1.103(a) - to suspend action in an application.
§1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
§1.295 - for review of refusal to publish a statutory invention registration.
§1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
§1.377 – for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
§1.550(c) – for patent owner requests for extension of time in ex parte reexamination proceedings.
§1.956 – for patent owner requests for extension of time in inter partes reexamination proceedings.
§ 5.12 – for expedited handling of a foreign filing license.
§ 5.15 – for changing the scope of a license.
§ 5.25 – for retroactive license.

Petition Fees under 37 CFR 1.17(h): Fee $130 Fee Code 1464

For petitions filed under:
§1.19(g) – to request documents in a form other than that provided in this part.
§1.84 – for accepting color drawings or photographs.
§1.91 – for entry of a model or exhibit.
§1.102(d) – to make an application special.
§1.138(c) – to expressly abandon an application to avoid publication.
§1.313 – to withdraw an application from issue.
§1.314 – to defer issuance of a patent.

Name (Print/Type)	**Carl I. Brundidge**	*Registration No. (Attorney/Agent)*	**29,621**
Signature		*Date*	November 10, 2005